CLAIMS

What is claimed is:

1. A method of testing an optical subassembly ("OSA") of an optoelectronic device, comprising:

providing a tester apparatus comprising:

a printed circuit board having a test circuit formed thereon, and

an electrical interface disposed in electrical communication with the test circuit;

forming a temporary electrical connection between a secondary circuit and the electrical interface of the tester apparatus;

transmitting a data stream through the OSA; and

evaluating the data stream.

2. The method as recited in claim 1, wherein forming a temporary electrical connection between a secondary circuit and the electrical interface of the tester apparatus further comprises forming an electrical connection between the OSA and the secondary circuit.

3. The method as recited in claim 1, wherein the optical subassembly is one of a transmitter optical subassembly ("TOSA") and a receiver optical subassembly ("ROSA").

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

4. The method as recited in claim 1, wherein the secondary circuit comprises a flexible circuit.

5. The method as recited in claim 1, wherein the secondary circuit comprises a lead system.

6. The method as recited in claim 1, wherein the optical subassembly is a transmitter optical subassembly (TOSA) wherein transmitting a data stream through the TOSA comprises sending a data stream in the form of an input electrical signal from the test circuit to the TOSA, wherein the TOSA outputs a corresponding optical signal.

7. The method as recited in claim 6, wherein evaluating the data stream further comprises analyzing the optical signal from the TOSA using an analyzer.

8. The method as recited in claim 1, further comprising transmitting the results of the evaluation to a computer.

9. The method as recited in claim 6, wherein evaluating the data stream comprises:

converting the optical signal from the TOSA back to an output electrical signal, and

comparing the input electrical signal with the output electrical signal.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

10. The method as recited in claim 1, wherein the optical subassembly is a receiver optical subassembly (ROSA) wherein transmitting a data stream through the ROSA comprises sending a data stream in the form of an input optical signal through the ROSA, wherein the ROSA outputs a corresponding data stream in the form of an electrical signal.

11. The method as recited in claim 10, wherein evaluating the data stream further comprising transmitting the electrical signal from the secondary circuit to the test circuit.

12. The method as recited in claim 11, wherein evaluating the data stream further comprises transmitting the electrical signal from the test circuit to a computer.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

13. An optical subassembly testing apparatus configured to evaluate an optical subassembly before the optical subassembly is connected to electrical components, the apparatus comprising:

a base member;

a test circuit disposed on the base member;

an electrical interface disposed in electrical communication with the test circuit, the electrical interface configured to be temporarily connected to the optical subassembly; and

means for temporarily placing the optical subassembly in electrical connection with the electrical interface.

14. The apparatus as recited in claim 13, wherein the means for temporarily placing the optical subassembly in temporary electrical connection with the electrical interface comprises a clamping assembly pivotably mounted to the base member.

15. The apparatus as recited in claim 13, wherein the clamping assembly has a plurality of pivot points enabling the clamping assembly to engage the optical subassembly at the electrical interface with at least a connecting force and a locking force, wherein the locking force is greater than the connecting force.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

16. The apparatus as recited in claim 13, wherein the means for temporarily placing the optical subassembly in temporary electrical connection with the electrical interface comprises a clamping assembly slidably mounted to the base member.

17. The apparatus as recited in claim 13, wherein the means for temporarily placing the optical subassembly in temporary electrical connection with the electrical interface comprises a clamping assembly disposed above the electrical interface and configured to engage the electrical interface in a press-fit configuration.

18. The apparatus as recited in claim 13, further comprising an analyzer configured to be temporarily connected to the optical subassembly.

19. The apparatus as recited in claim 18, further comprising a computer connected to the test circuit and to the analyzer.

20. The apparatus as recited in claim 18, wherein the analyzer is a bit error rate tester and an optical receiver.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

21. The apparatus as recited in claim 18, wherein the analyzer is a bit error rate tester and an optical transmitter.

22. The apparatus as recited in claim 13, further comprising an optical pattern generator configured to be temporarily connected to the optical subassembly.

23. The apparatus as recited in claim 22, further comprising a computer connected to the test circuit and the optical pattern generator.

24. The apparatus as recited in claim 13, wherein the optical subassembly is one of a transmitter optical subassembly ("TOSA") and a receiver optical assembly ("ROSA").

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

25. An optical subassembly testing apparatus configured to evaluate an optical subassembly before the optical subassembly is connected to electrical components, the apparatus comprising:

a base member;

a test circuit disposed on the base member;

an electrical interface disposed in electrical communication with the test circuit, the electrical interface configured to be temporarily connected to the optical subassembly; and

a clamping assembly pivotably mounted to the base member, the clamping assembly configured for temporarily placing the optical subassembly in temporary electrical connection with the electrical interface.

26. The apparatus as recited in claim 25, wherein the clamping assembly has a plurality of pivot points enabling the clamping assembly to engage the optical subassembly at the electrical interface with at least a connecting force and a locking force, wherein the locking force is greater than the connecting force.

27. The apparatus as recited in claim 25, further comprising an analyzer configured to be temporarily connected to the optical subassembly.

28. The apparatus as recited in claim 27, further comprising a computer connected to the test circuit and to the analyzer.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

29. The apparatus as recited in claim 27, wherein the analyzer is a bit error rate tester and an optical receiver.

30. The apparatus as recited in claim 27, wherein the analyzer is a bit error rate tester and an optical transmitter.

31. The apparatus as recited in claim 25, further comprising an optical pattern generator configured to be temporarily connected to the optical subassembly.

32. The apparatus as recited in claim 31, further comprising a computer connected to the test circuit and the optical pattern generator.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111